REMARKS

Claims 1-72 were pending in the present application. Claims 2, 3, 5, 17-19, 29, 30, 39, 43, 48-49, 51-52, 58, 67, and 71 have been cancelled without prejudice. Claims 1, 4, 6-8, 11, 14, 16, 20, 26, 27, 31-34, 37, 38, 40-41, 44, 47, 50, 53-56, 65, and 69 have been amended to clarify claimed subject matter and/or correct informalities. Support may be found at least at pages 1, 3, 8, 10, 12, and Figure 2. No new matter has been introduced by these amendments.

Claims 1, 4, 6-16, 20-28, 31-38, 40-42, 44-50, 53-57, 59-66, 68-70, and 72 are for consideration upon entry of the present Amendment. Applicant requests favorable consideration of this response and allowance of the subject application based on the following remarks.

Allowable Subject Matter

A. Claims 5-15, 19-26, 30-37, 43-46, 49, 52, 58-63, 67-68, and 71-72 are indicated as being allowable if rewritten in independent form (Office Action, page 8). Applicant thanks the Examiner for indicating that these claims are allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Independent base Claims 1, 16, 27, 38, 47, 59, 56, 65, and 69 have been amended to recite features formerly recited in dependent Claims 2, 3, 5, 17-19, 29-30, 39, 43, 48-49, 51-52, 58, 67, and 71, respectively. The amendments to independent Claims 1, 16, 27, 38, 47, 59, 56, 65, and 69 are purely of form (i.e., dependent format to independent format), and are not to overcome prior art or any other objections. Accordingly, dependent Claims 2, 3, 5, 17-19, 29-30, 39, 43, 48-49, 51-52, 58, 67, and 71 have been cancelled without prejudice.

Applicant submits that independent Claims 1, 16, 27, 38, 47, 59, 56, 65, and 69 are in allowable form. Therefore, Applicant submits that Claims 1, 16, 27, 38, 47, 59, 56, 65, and 69 are in condition for allowance.

B. Claims 53-55 would be allowable if rewritten to overcome the §101 rejection set forth in the office action (Office Action, page 8). Applicant thanks the Examiner for indicating that Claims 53-55 would be allowed if rewritten to overcome §101 rejection.

Applicant has rewritten Independent Claims 53-55 to overcome the §101 rejection.

Therefore, Applicant submits that Claims 53-55 are in condition for allowance.

Claim Rejection Under 35 U.S.C. §101

Independent Claims 1, 16, 27, 38, 47, 50, 53-56, 65, and 69 and dependent Claims 2-15, 17-26, 28-37, 39-46, 48-49, 51-52, 57-64, 66-68, and 70-72 stand rejected under 35 U.S.C. §101 as being allegedly directed to non-statutory subject matter. Dependent Claims 2, 17, 28, 57, 66, and 70 have been cancelled without prejudice, rendering these rejections moot.

Applicant has amended independent Claim 1 to further clarify Applicant's subject matter for a practical and useful purpose. For example, amended Claim 1 recites in part, "outputting validation of selected information based on Squared Weir pairing; and determining a course of action in response to validation of selected information". Support may be found at least at pages 1, 3, 8, 10, 12, and in Figure 2. Again, no new matter has been introduced.

Independent Claims 16, 27, 38, 47, 50, 53-56, 65, and 69 have been amended and are directed to computer-readable media, methods, and apparatuses. Each claim is allowable for reasons similar to those discussed above with respect to Claim 1.

Dependent Claims 3-15, 18-26, 29-37, 39-46, 48-49, 51-52, 58-64, 67-68, and 71-72 depend directly or indirectly from one of independent Claims 1, 16, 27, 38, 47, 50, 53-56, 65, and 69 and are allowable by virtue of this dependency. These claims comply with 35 U.S.C. §101 and as a result, these rejections are now moot.

Claim Rejections 35 U.S.C. §102

Claims 1-4, 16-18, 27-29, 56-57, 64, 65-66, and 69-70 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Publication No. 2003/ 0081785A1 to Boneh et al. (hereinafter "Boneh"). Applicant respectfully traverses this rejection. Anticipation under §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference (MPEP §2131).

In the interest of expediting prosecution of the application, and without conceding the propriety of the rejection, Applicant has amended **independent Claim 1** to recite features along the lines of allowable dependent Claim 5, depending from intervening Claims 2 and 3. Accordingly, Claims 2, 3, and 5 have been canceled, thereby rendering moot the rejection of those claims. Claim 1 has allowable subject matter. Applicant respectfully requests withdrawal the rejection of Claim 1.

Independent Claims 16, 27, 56, 65, and 69 have been amended to recite features along the lines of allowable dependent Claims 19, 30, 43, 49, 52, 58, 67, and 71, respectively. Accordingly, dependent Claims 19, 30, 43, 49, 52, 58, 67, and 71 have been cancelled. Independent Claims 16, 27, 56, 65, and 69 are directed to computer-readable media, methods, and apparatus. Each claim is allowable for reciting features along the lines of allowed dependent claims.

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Dependent Claim 4 depends directly from independent Claim 1, and is allowable by virtue of this dependency. Accordingly, Applicant requests that the §102 rejections be withdrawn

Claim Rejections 35 U.S.C. §103

A. Claims 38-41, 47-48, and 50-51 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2003 / 0081785A1 to Boneh et al. (hereinafter "Boneh") in view of an article entitled "On the Modularity of Certain GL₂ (F₇) Galois Representations" to Manoharmayum (hereinafter "Mano"), January 23, 2001 (revised version August 29, 2001).

B. Claim 42 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2003 / 0081785A1 to Boneh et al. (hereinafter "Boneh") in view of an article entitled "On the Modularity of Certain GL₂ (F₇) Galois Representations" to Manoharmayum (hereinafter "Mano"), January 23, 2001 (revised version August 29, 2001), and further in view of IEEE, Transactions on information theory vol. 45, no. 5, July 1999, (pages 1717-1719) (hereinafter "IEEE"). Applicant respectfully traverses these rejections.

Applicant has amended independent Claim 38 to recite features along the lines of allowable dependent Claim 43, depending from intervening Claim 39. Accordingly, Claims 39 and 43 have been canceled, thereby rendering moot the rejection of those claims. Claim 38 has allowable subject matter. Applicant respectfully requests withdrawal the rejection of Claim 38.

Dependent Claims 40 and 41 depends directly from independent Claim 38, and are allowable by virtue of this dependency. Independent Claims 47 and 50 have been amended to recite features along the lines of

allowable dependent Claims 49 and 52, respectively. Accordingly, dependent Claims 48-49,

and 51-52 have been cancelled. Independent Claims 47 and 50 are directed to a computer-

readable media and an apparatus. Each claim is allowable for reciting features along the lines

of allowed dependent claims.

Dependent Claims 42 depends directly from independent Claim 38, and is allowable

by virtue of this dependency. Accordingly, Applicant requests that the §102 rejections be

withdrawn.

Conclusion

The pending Claims 1, 4, 6-16, 20-28, 31-38, 40-42, 44-50, 53-57, 59-66, 68, 70, and 72

are in condition for allowance. Applicant thanks the Examiner for the allowable subject matter

and respectfully requests reconsideration and prompt allowance of the subject application. If

any issues remain unresolved that would prevent allowance of this case, the Examiner is

requested to contact the undersigned attorney to resolve the issue.

Respectfully Submitted, Lee & Hayes, PLLC

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Bv:

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